



# **Water & Sewer Fund**

## **Proposed FY 2013 Rates**

### **April 19, 2012**



# Outline

- Completed Major Plant Projects
- Rate Objectives & Strategies
- Key Issues
- Capital Improvement Program
- Customer Consumption
- Proposed Rates



# Brown Water Plant

New Finished  
Water Pumping  
Building







# Brown Water Plant

## New Finished Water Pumping Building





# Brown Water Plant

## Filters 1 - 4 Rehabilitation







# Williams Water Plant

Painting, Mud Valve  
Replacement & Stormwater  
Rehabilitation







# South Durham WRF

## Gas Holder, Grit Chamber & Clarifier Rehabilitation







New Biosolids Pad  
Cover

Primary Clarifier Repairs

New Aeration Basin

Pretreatment  
Facility Repairs

Final Clarifier  
Repairs &  
Improvements

New UV Facility

North Durham  
WRF

N. DURHAM WRF





# North Durham WRF

## New Aeration Basin







# North Durham WRF

## New UV Facility Sludge Pad Cover







# Rate Setting Objectives

- Sustainability
  - Address increasing operating costs
  - Fund long-term capital needs
- Conservation
  - Continue tiered rate approach to promote conservation
  - Cost-Based
  - Recognize impacts of year-round irrigation schedule
- Affordability
  - Fairness and Equity





# Multi-Year Rate Strategy

- Cover increasing operating and regulatory costs via moderate sustainable rate increases
- Provide funding for CIP implementation
- Issue revenue bonds to smooth impact of rate increases
- Raise rates sufficiently to cover future debt service covenants on large revenue bond issues
- Reward conservation efforts by providing lower rates for water efficient customers



# Key Issues

- Capital Project budget is \$31.65 M in FY13
  - \$337 M over next five years
- Revenue bond debt issues will be necessary in FY14 to FY16 to fund major capital projects
- Water efficiency/restrictions and economy will keep demand relatively flat
- Concerns with raising rates in slow economy
- Prudent use of reserves
- Maintaining adequate debt service coverage to minimize interest expense





# Capital Improvement Program



# Overall CIP Strategy

- Continue to fund rehabilitation programs for dams, plants, sewer collection and water distribution systems
- Continue Jordan Lake initiatives
  - Planning, environmental and regulatory
  - Delay need for large capital investment
- Implement necessary improvements to meet regulatory requirements, compliance with Falls and Jordan Lake Rule vital
- Continue to fund utility efficiencies





# Typical Timeframes For Projects

- Lake Development/New Plants – 10 Years
- Plant Expansion/Renovation – 4 Years
- Major Pipelines – 4 Years
- Rehabilitation Projects – 2 years



# Capital Improvement Program

- Anticipate significant spending as more projects move out of the design phase and into construction phase
  - FY13 - \$31.65 M
  - FY14 - \$84.40 M
  - FY15 - \$91.60 M
- Major construction projects will be occurring at all facilities



# Proposed Capital Funding

(in \$Million )

	<b>FY 13</b>	<b>FY 14</b>	<b>FY 15</b>	<b>FY 16</b>	<b>FY 17</b>	<b>Total</b>
<b>Water Projects</b>	<b>\$9.85</b>	\$30.40	\$44.50	\$36.70	\$15.30	<b>\$136.75</b>
<b>Sewer Projects</b>	<b>\$21.80</b>	\$54.00	\$47.10	\$28.50	\$48.60	<b>\$200.00</b>
<b>Required CIP Funding</b>	<b>\$31.65</b>	<b>\$84.40</b>	<b>\$91.60</b>	<b>\$65.20</b>	<b>\$63.90</b>	<b>\$336.75</b>



# CIP – Water Projects

Project	FY 2012-13 millions
Automatic Meter Replacement	\$0.80
Lake Michie & Little River Dam Rehabilitation	\$0.50
Southern Reinforcing Main – Phase II	\$1.10
Downtown Reinforcing Main	\$0.25
Water Extensions & Improvements	\$2.00
Water - Future Supply/Source Water Protection	\$0.50
Water Main Rehabilitation	\$2.10
Water Facilities Rehabilitation	\$1.30
Water Residuals Handling	\$1.30
<b>Total Water</b>	<b>\$9.85</b>





## CIP – Wastewater Projects

Project	FY 2012-13 millions
Facility Paving	\$0.60
Orange County Development Zone	\$0.70
Sewer Collection System Rehabilitation	\$7.50
Sewer Extensions & Improvements	\$1.50
Wastewater Process Rehabilitation	\$6.50
Water Management Facility Expansion	\$5.00
<b>Total Wastewater</b>	<b>\$21.80</b>

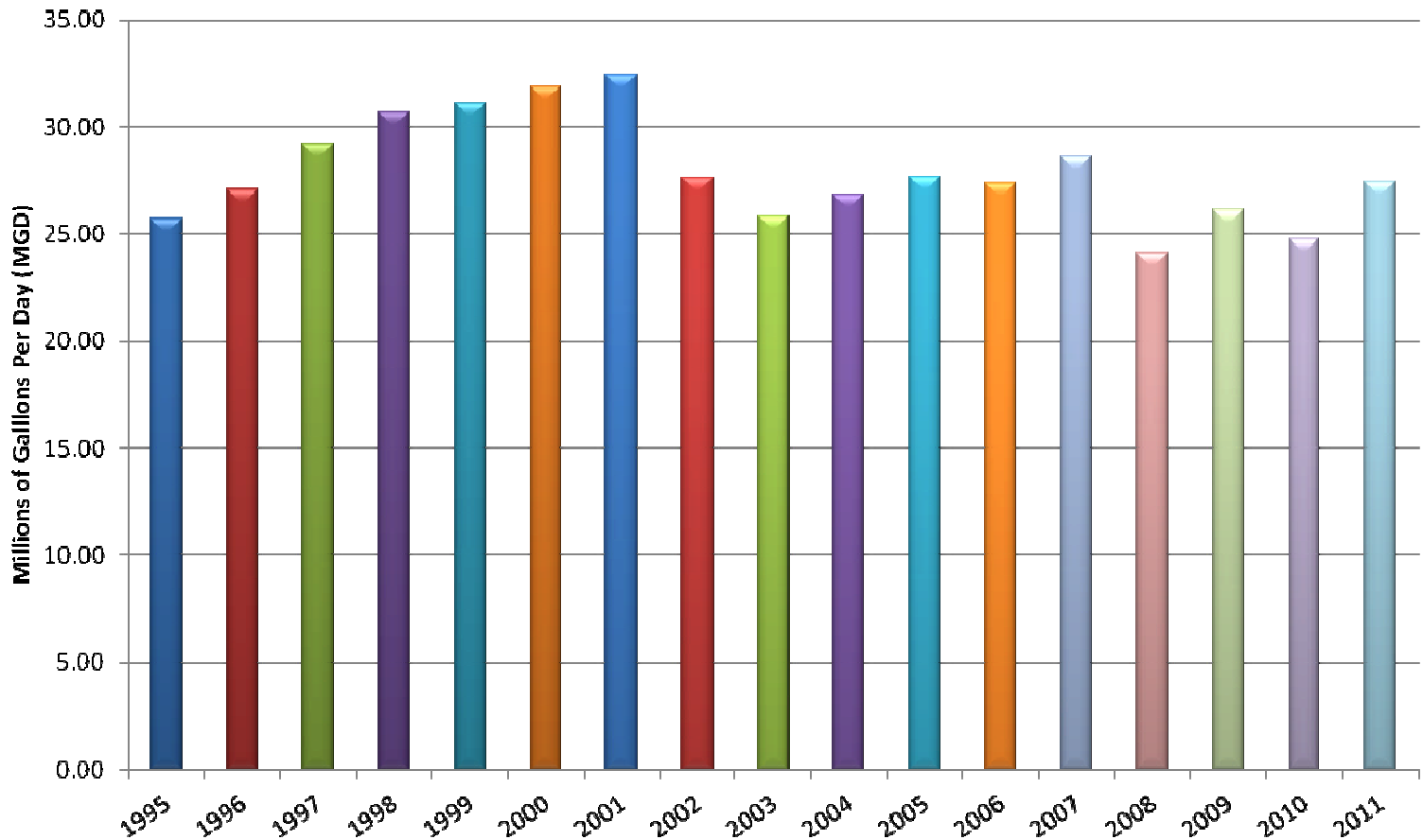


# Customer Consumption



# Water Production – 1995 - 2011

**Average Daily Finished Water Produced**



# Consumption by Category - CY 2011

Customer Type	% of All Consumption
Single Family Residential (SFR) Tiers 1-5	38.9%
Nonresidential (ICI) Institutional, Commercial, Industrial	56.0%
Irrigation Only (IO)	5.1%





## Percent of all CY 2011 Consumption (SFR, ICI,IO) by Tier

Tier	% of Consumption
Tier 1 (0 – 200 cf)	14.5%
Tier 2 (201 – 500 cf)	14.2%
Tier 3 (501 – 800 cf)	61.8%
Tier 4 (801 – 1500 cf)	3.2%
Tier 5 (>1500 cf)	6.3%



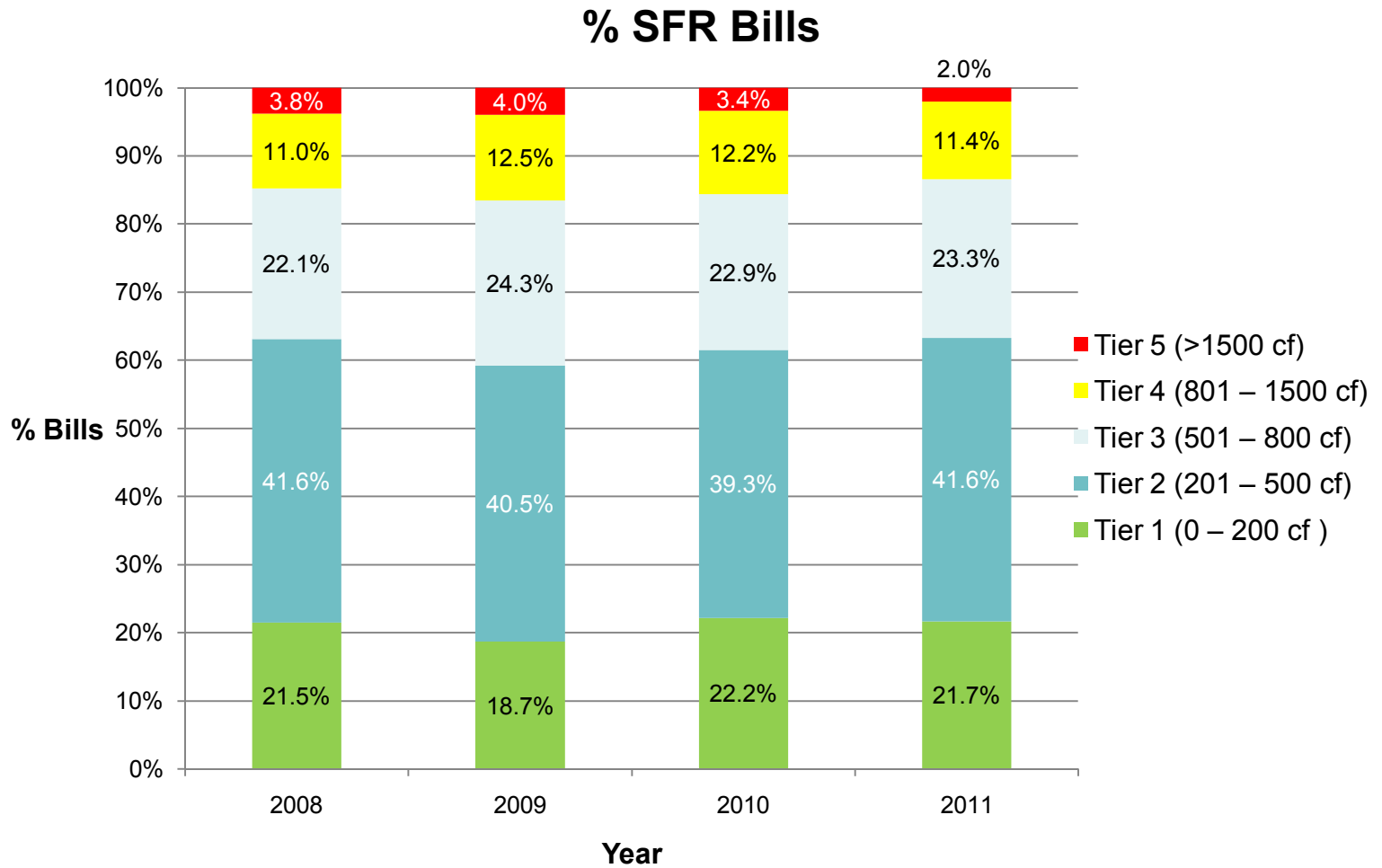
## Percent of all Consumption Comparison (SFR, ICI,IO) by Tier

Tier	% of Consumption	
	2010	2011
Tier 1 (0 – 200 cf)	14.4%	14.5%
Tier 2 (201 – 500 cf)	14.3%	14.2%
Tier 3 (501 – 800 cf)	55.9%	61.8%
Tier 4 (801 – 1500 cf)	4.1%	3.2%
Tier 5 (>1500 cf)	11.3%	6.3%

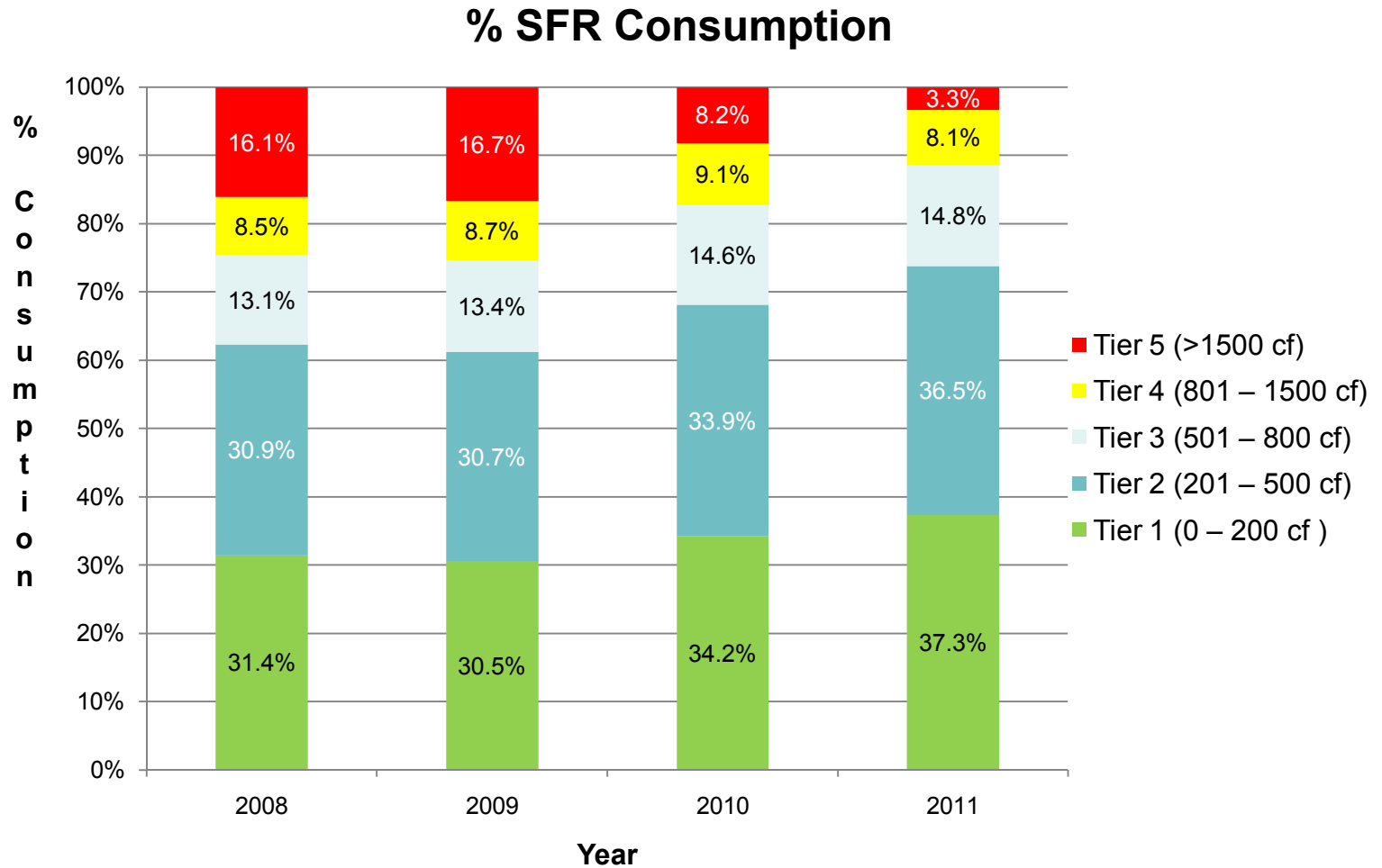




# Percent of SFR Bills by Tiers – CY 2011



# Percent of SFR Consumption by Tiers CY 2011





# **FY 2012 - 2013 Proposed Water & Sewer Rates**





# Revenue Bond/Debt Strategy

- Spend down ~\$60 M in reserves over time to:
  - minimize revenue bond requirements
  - maintain 180 days operating costs reserve - about \$30 M
- Shift revenue bonds from 20 year to 30 year to level out and minimize rate increases
- Shifted Rate Model to cash flow model instead of appropriation based
- Anticipate spending \$208 M from FY13 – FY15 as projects transition from design to construction
- Projected Revenue Bonds - \$150M FY14 & \$115 M FY16



# FY13 Water & Sewer Rates - Proposed

- Increases to the water and sewer service charges
- Modest increase water consumption charges (all tiers)
- Increase to the sewer consumption charges, uniform for all customers
- Based on usage, customers will see different percentage increases in actual bills
- Will impact residential customers with higher rates as usage moves into higher tiers:
  - Targets elective water uses
  - Minimizes impact to lower use customers
- Continue to bill Commercial, Multi-Family Residential, Industrial and Institutional customers at Tier 3 rates
- Outside double rates continue

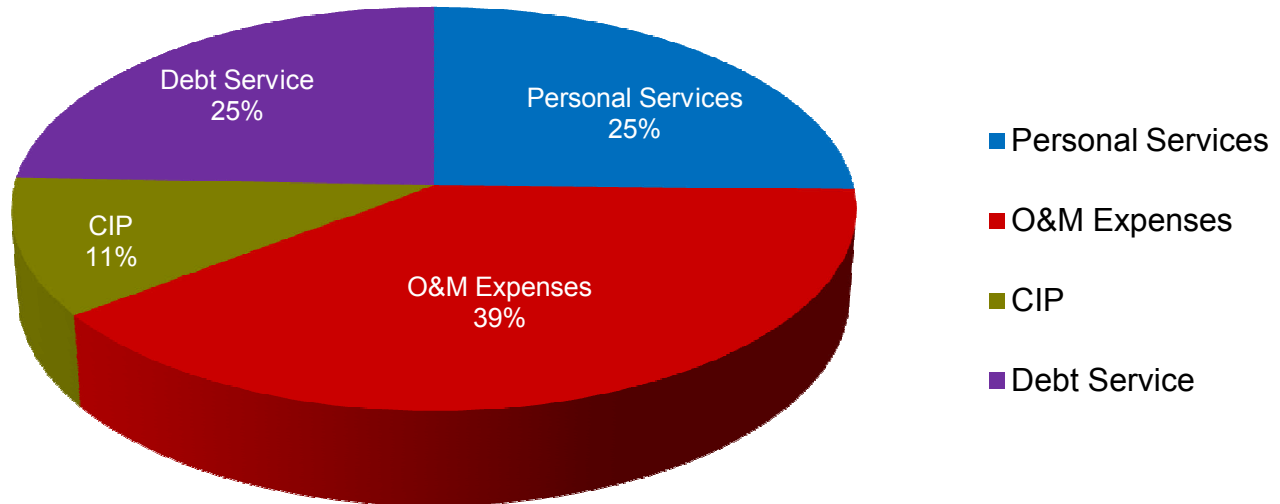


# Proposed FY 13 Rates Will

- Cover:
  - Operating Budget (w/ New Initiatives)
  - Pay for Performance
  - Pay-Go CIP Funding
  - Debt
  - Fleet Replacement Fund
  - Radio Replacement Project
- Maintain proper debt covenants
- Maintain operating reserves



## Major FY2013 Budget Components





# Proposed FY 2013 SFR Rate Increase

	FY 12 Rates	FY 13 Rates
<u>Monthly Water Rates</u>		
Service Charge	\$ 5.56	\$ 5.77
Volume Charge - Tiered Rates (per 100 cubic foot - ccf)		
Tier 1 (0 - 2 ccf)	\$ 1.73	\$ 1.74
Tier 2 (>2 - 5 ccf)	\$ 2.60	\$ 2.62
Tier 3 (>5 - 8 ccf)	\$ 2.85	\$ 2.87
Tier 4 (>8 - 15 ccf)	\$ 3.72	\$ 3.75
Tier 5 (>15 ccf)	\$ 5.57	\$ 5.62
<u>Monthly Sewer Rates</u>		
Service Charge	\$ 6.49	\$ 6.73
Volume Charge (per ccf)	\$ 3.56	\$ 3.67

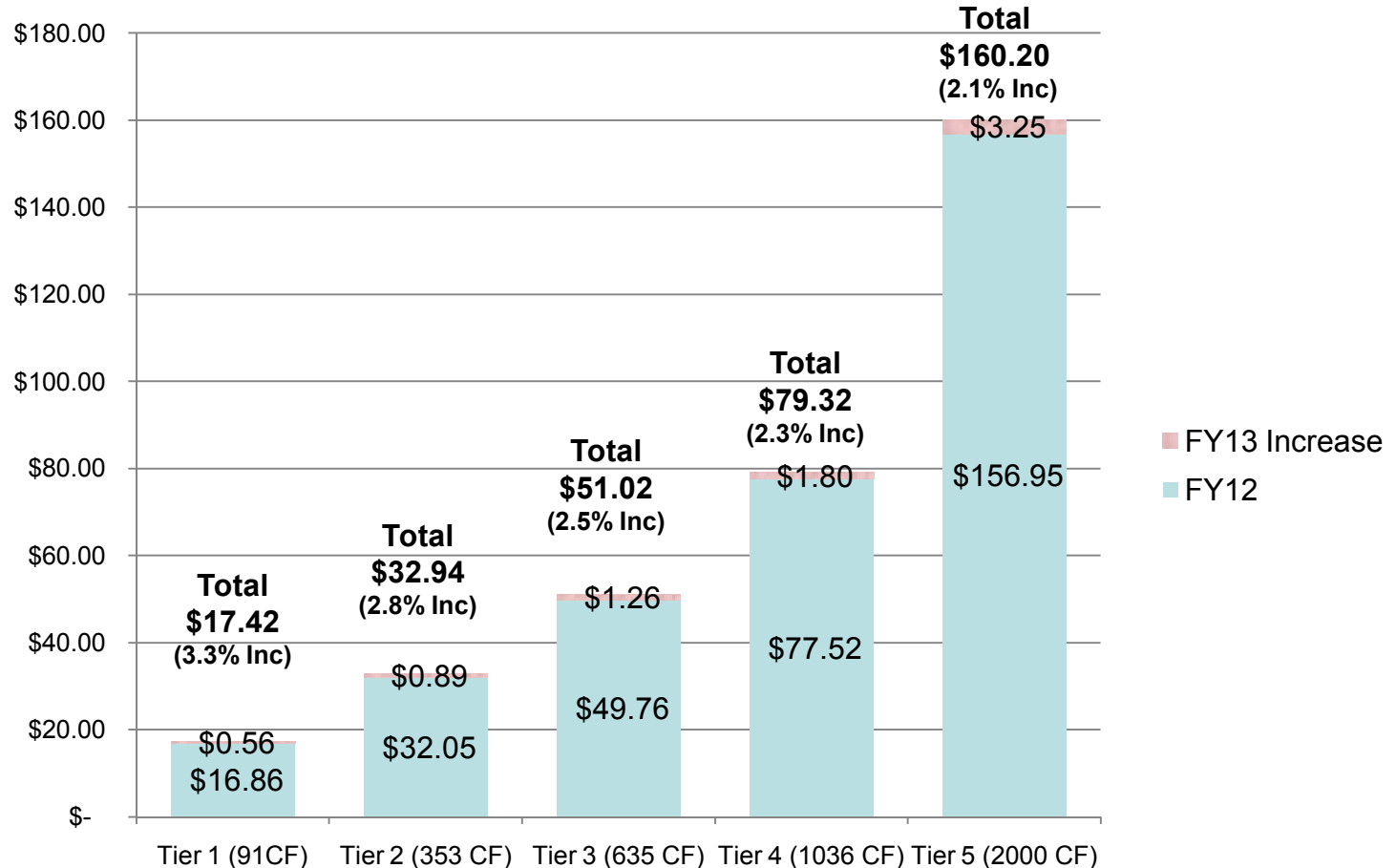


## Comparison of Monthly Average Residential Inside Water & Sewer Bill FY12 vs. FY13

	Min % Change in Tier	Avg. Customer % Change in Tier	Max % Change in Tier
Tier 1 (0-200 cf)	3.73%	3.32%	3.05%
<b>\$ Increase</b>	<b>\$0.45</b>	<b>\$0.56</b>	<b>\$0.69</b>
<i>Volume used (cf)</i>	<i>000</i>	<i>91</i>	<i>200</i>
Tier 2 (201-500 cf)	3.04%	2.78%	2.63%
<b>\$ Increase</b>	<b>\$0.69</b>	<b>\$0.89</b>	<b>\$1.08</b>
<i>Volume used (cf)</i>	<i>201</i>	<i>353</i>	<i>500</i>
Tier 3 (501-800 cf)	2.65%	2.53%	2.44%
<b>\$ Increase</b>	<b>\$1.09</b>	<b>\$1.26</b>	<b>\$1.47</b>
<i>Volume used (cf)</i>	<i>501</i>	<i>635</i>	<i>800</i>
Tier 4 (801-1500 cf)	2.43%	2.32%	2.20%
<b>\$ Increase</b>	<b>\$1.47</b>	<b>\$1.80</b>	<b>\$2.45</b>
<i>Volume used (cf)</i>	<i>801</i>	<i>1036</i>	<i>1500</i>
Tier 5 (>1500 cf)	2.20%	2.07%	1.75%
<b>\$ Increase</b>	<b>\$2.45</b>	<b>\$3.25</b>	$\infty$
<i>Volume used (cf)</i>	<i>1501</i>	<i>2000</i>	$\infty$



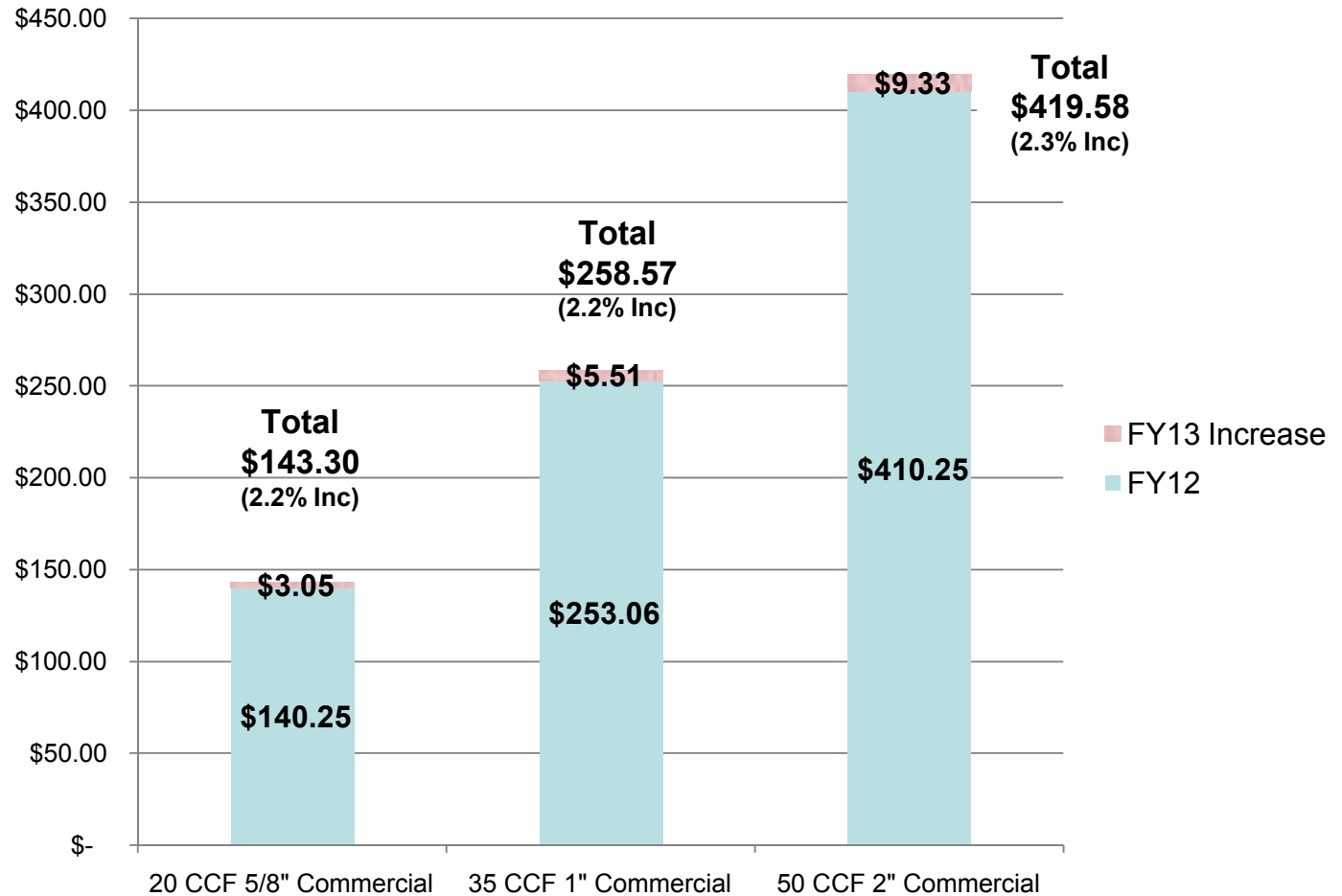
## Comparison of Monthly Average Residential Inside Water & Sewer Bill FY12 vs. FY13







## Comparison in Monthly Commercial Inside Bill FY12 vs. FY13





# Long Term Effect of Strategic But Moderate Increases

- Cover increasing operating and maintenance costs
- Fund increasing rehabilitation and renewal costs
- Provide source for pay-as-you-go funding for capital projects
- Limit the need for large revenue bond spending
- Keep rates lower over extended periods of time
- Strengthen the financial position of the utility and the City

Durham

Rates Comparison

Financial Benchmarks

Characteristics

Links

Select residential bill and consumption amount

☐ Water Bill ☐ Sewer Bill ☒ Water + Sewer



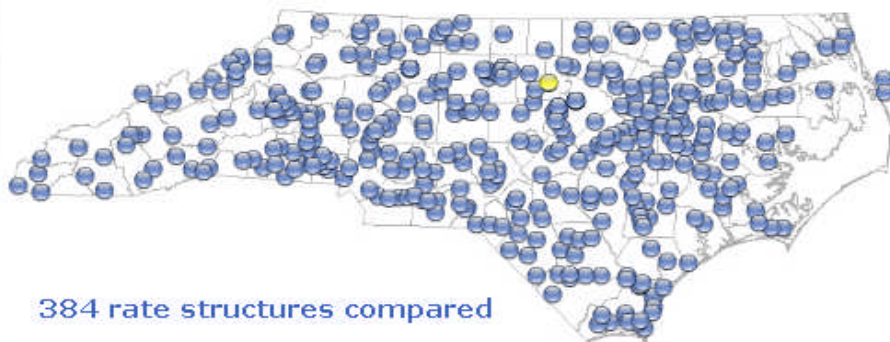
5,000 gallons  
668 cubic feet

Monthly Water & Sewer Bill: \$51.91

Select your comparison group

All Utilities

Comparing to all utilities in the survey



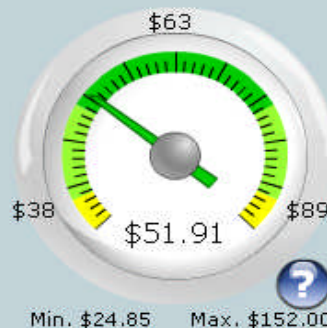
384 rate structures compared

Observe the effects of  
raising rates by:



### Bill Comparison

Water & Sewer Bill at  
5,000 gallons



### Conservation Signal

Water & Sewer Price/1,000  
Gallons after 10,000 Gallons



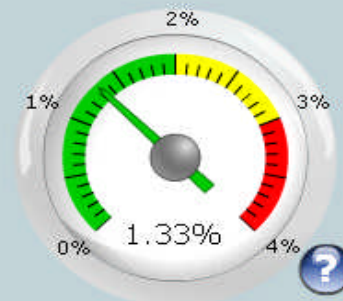
### Cost Recovery

Water & Sewer Op.  
Revenues / Op. Expenses  
inc. Depreciation (FY11)



### Affordability

Water & Sewer Bills as %  
MHI in 2010



Durham

Rates Comparison

Financial Benchmarks

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Select residential bill and consumption amount

☐ Water Bill ☐ Sewer Bill ☒ Water + Sewer



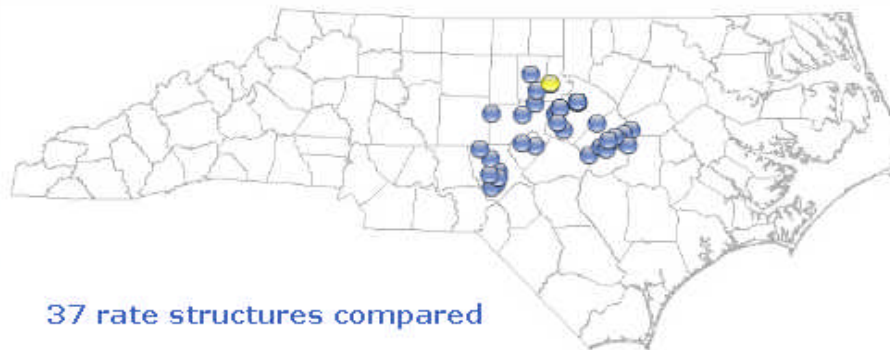
5,000 gallons  
668 cubic feet

Monthly Water & Sewer Bill: \$51.91

Select your comparison group

Same Region COG

Comparing to utilities also in the Triangle J Council of Government region



37 rate structures compared

Observe the effects of raising rates by:  0%

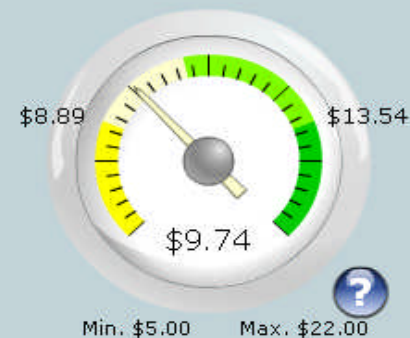
### Bill Comparison

Water & Sewer Bill at 5,000 gallons



### Conservation Signal

Water & Sewer Price/1,000 Gallons after 10,000 Gallons



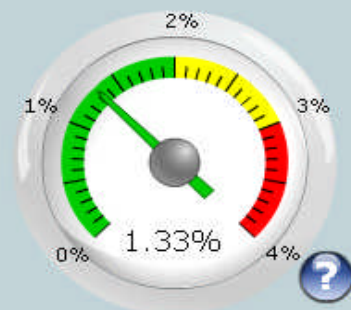
### Cost Recovery

Water & Sewer Op. Revenues / Op. Expenses inc. Depreciation (FY11)



### Affordability

Water & Sewer Bills as % MHI in 2010





Durham

Rates Comparison

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Select residential bill and consumption amount

☐ Water Bill ☐ Sewer Bill ☒ Water + Sewer

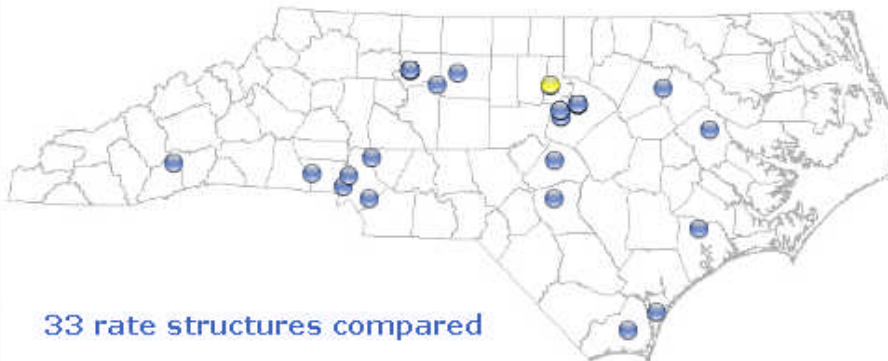
0 15 **5,000 gallons**  
**668 cubic feet**

Monthly Water & Sewer Bill: \$51.91

Select your comparison group

Similar Number of Accounts

Comparing to utilities also with more than 25,000 accounts



Observe the effects of raising rates by: 0%

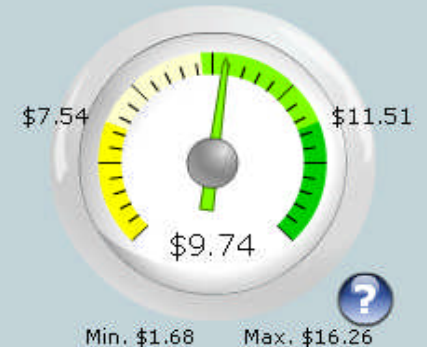
### Bill Comparison

Water & Sewer Bill at  
5,000 gallons



### Conservation Signal

Water & Sewer Price/1,000  
Gallons after 10,000 Gallons



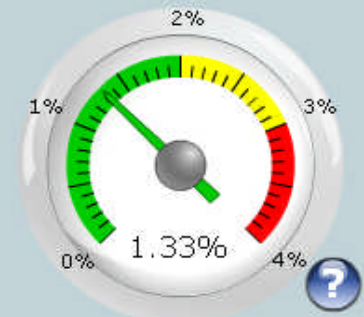
### Cost Recovery

Water & Sewer Op.  
Revenues / Op. Expenses  
inc. Depreciation (FY11)



### Affordability

Water & Sewer Bills as %  
MHI in 2010





# Monthly Water & Sewer Bill Comparison\*

	FY 2011 Average Bill	FY 2012 Average Bill	Proposed FY 2013 increase
<b>Durham</b>	<b>\$ 41.34</b>	<b>\$ 43.30</b>	2.6%
Winston Salem	\$ 24.98	\$ 27.11	8% - 9%
Raleigh	\$ 36.58	\$ 40.47	7% - 9%
Charlotte	\$ 35.86	\$ 40.05	
Fayetteville PWC	\$ 40.00	\$ 40.22	4% water; 3% sewer
Greensboro	\$ 31.34	\$ 31.34	8.5%
CFPUA/Wilmington	\$ 44.07	\$ 50.76	5% water; 13% sewer
Cary	\$ 48.70	\$ 51.46	4%
OWASA	\$ 69.25	\$ 70.66	0%
<i>Average</i>	<i>\$ 41.35</i>	<i>\$ 43.93</i>	

\* 4000 gallons (5.35 CCF) monthly usage (water & sewer service) – Tier 3.



# Capital Facilities Fee (CFF)

- Charged for new meter installations
- CFF pays only for new expansion projects
- No increases proposed for FY 2013

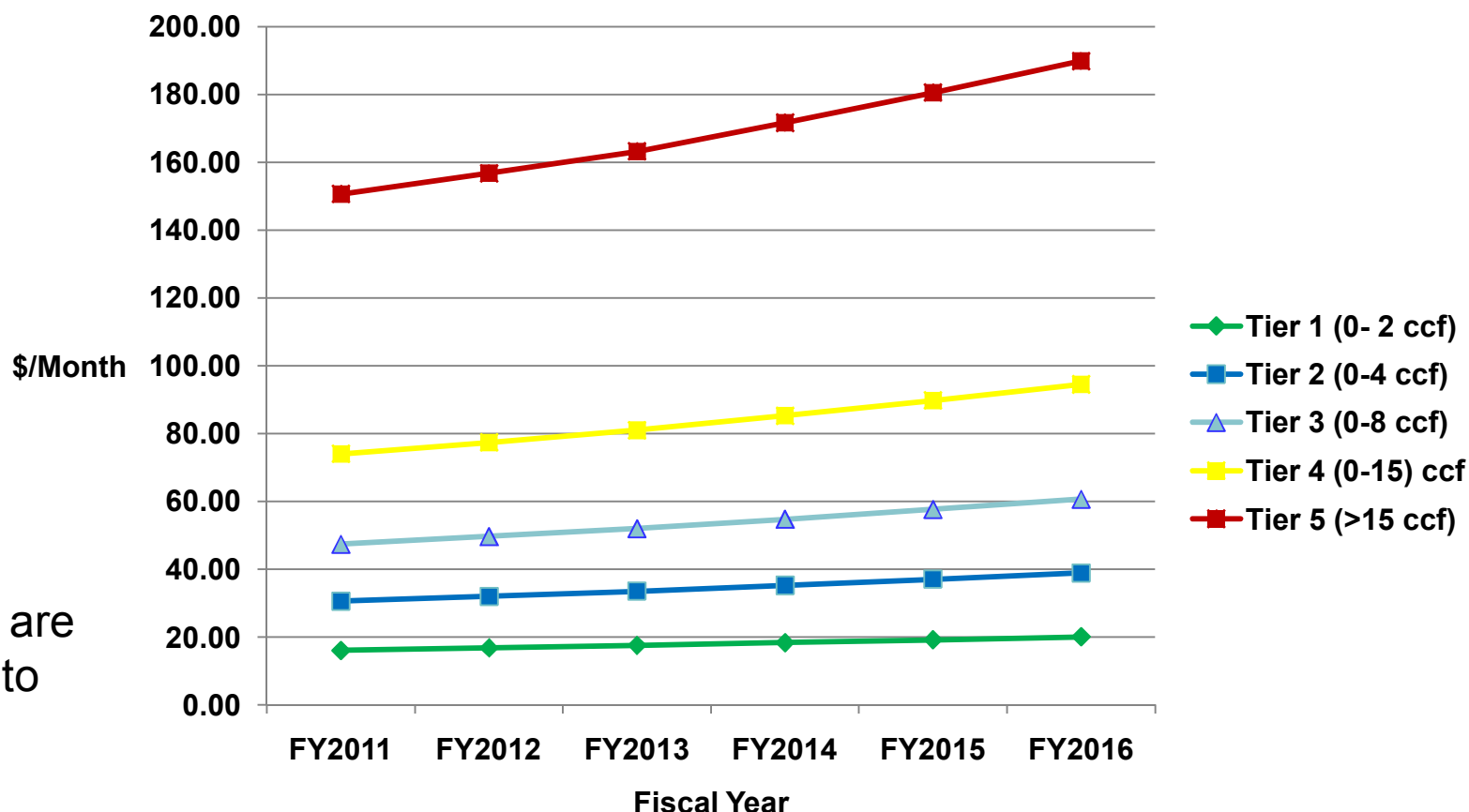


# Questions





# Projected Average SFR Monthly Cost per Tier – **FY 12**



Rate increases are projected to be ~4% annually

# Projection of Water & Sewer Revenue Requirements – **FY 12**

